Network Working Group
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Obsoletes: RFC 810, 608

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DOD INTERNET HOST TABLE SPECIFICATION

STATUS OF THIS MEMO

This RFC is the official specification of the format of the Internet Host Table. This edition of the specification includes minor revisions to RFC-810 which brings it up to date. Distribution of this memo is unlimited.

INTRODUCTION

The DoD Host Table is utilized by the DoD Hostname Server maintained by the DDN Network Information Center (NIC) on behalf of the Defense Communications Agency (DCA) [See RFC-953].

LOCATION OF THE STANDARD DOD ONLINE HOST TABLE

A machine-translatable ASCII text version of the DoD Host Table is online in the file NETINFO:HOSTS.TXT on the SRI-NIC host. It can be obtained via FTP from your local host by connecting to host SRI-NIC.ARPA (26.0.0.73 or 10.0.0.51), logging in as user = ANONYMOUS, password = GUEST, and retrieving the file "NETINFO:HOSTS.TXT". The same table may also be obtained via the NIC Hostname Server, as described in RFC-953. The latter method is faster and easier, but requires a user program to make the necessary connection to the Name Server.

ASSUMPTIONS

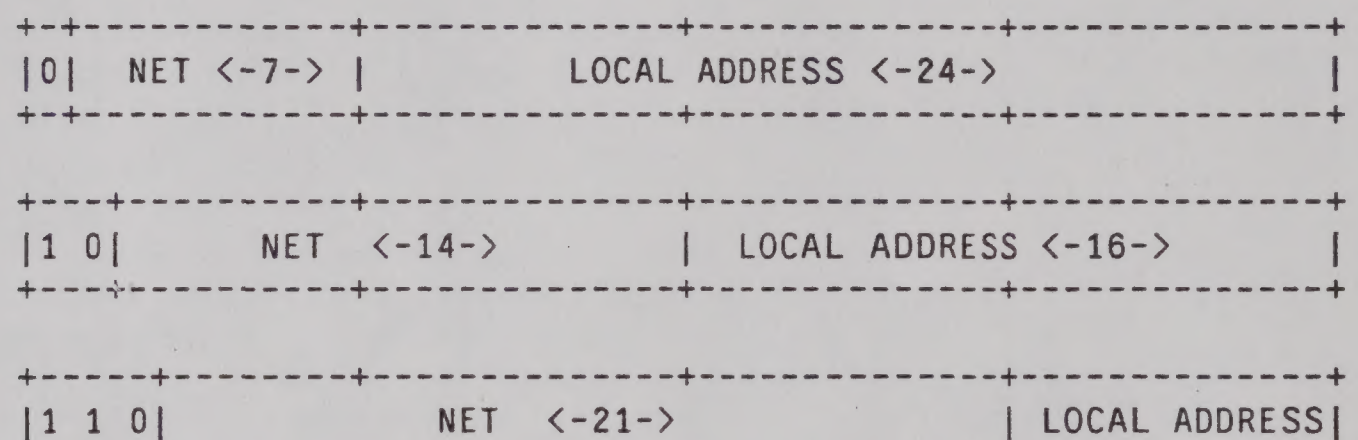
1. A "name" (Net, Host, Gateway, or Domain name) is a text string up to 24 characters drawn from the alphabet (A-Z), digits (0-9), minus sign (-), and period (.). Note that periods are only allowed when they serve to delimit components of "domain style names". (See RFC-921, "Domain Name System Implementation Schedule", for background). No blank or space characters are permitted as part of a name. No distinction is made between upper and lower case. The first character must be an alpha character. The last character must not be a minus sign or period. A host which serves as a GATEWAY should have "-GATEWAY" or "-GW" as part of its name. Hosts which do not serve as Internet gateways should not use "-GATEWAY" and "-GW" as part of their names. A host which is a TAC should have "-TAC" as the last part of its host name, if it is a DoD host. Single character names or nicknames are not allowed.

2. Internet Addresses are 32-bit addresses [See RFC-796]. In the

host table described herein each address is represented by four decimal numbers separated by a period. Each decimal number represents 1 octet.

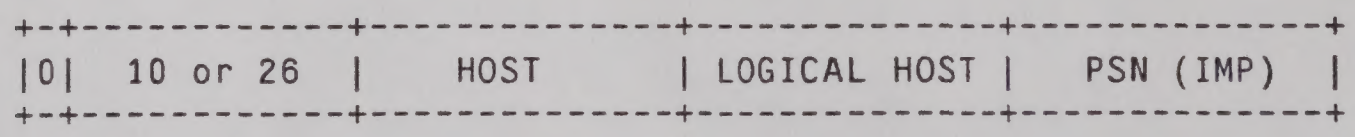
3. If the first bit of the first octet of the address is 0 (zero), then the next 7 bits of the first octet indicate the network number (Class A Address). If the first two bits are 1,0 (one,zero), then the next 14 bits define the net number (Class B Address). If the first 3 bits are 1,1,0 (one,one,zero), then the next 21 bits define the net number (Class C Address) [See RFC-943].

This is depicted in the following diagram:



4. The LOCAL ADDRESS portion of the internet address identifies a host within the network specified by the NET portion of the address.

5. The ARPANET and MILNET are both Class A networks. The NET portion is 10 decimal for ARPANET, 26 decimal for MILNET, and the LOCAL ADDRESS maps as follows: the second octet identifies the physical host, the third octet identifies the logical host, and the fourth identifies the Packet Switching Node (PSN), formerly known as an Interface Message Processor (IMP).



(NOTE: RFC-796 also describes the local address mappings for several other networks.)

6. It is the responsibility of the users of this host table to translate it into whatever format is needed for their purposes.

7. Names and addresses for DoD hosts and gateways will be negotiated and registered with the DDN PMO, and subsequently with the NIC,

before being used and before traffic is passed by a DoD host. Names and addresses for domains and networks are to be registered with the DDN Network Information Center (HOSTMASTER@SRI-NIC.ARPA) or 800-235-3155.

The NIC will attempt to keep similar information for non-DoD networks and hosts, if this information is provided, and as long as it is needed, i.e., until intercommunicating network name servers are in place.

EXAMPLE OF HOST TABLE FORMAT

```
NET : 10.0.0.0 : ARPANET :
NET : 128.10.0.0 : PURDUE-CS-NET :
GATEWAY : 10.0.0.77, 18.10.0.4 : MIT-GW.ARPA,MIT-GATEWAY : PDP-11 :
          MOS : IP/GW,EGP :
HOST : 26.0.0.73, 10.0.0.51 : SRI-NIC.ARPA,SRI-NIC,NIC : DEC-2060 :
       TOPS20 :TCP/TELNET,TCP/SMTP,TCP/TIME,TCP/FTP,TCP/ECHO,ICMP :
HOST : 10.2.0.11 : SU-TAC.ARPA,SU-TAC : C/30 : TAC : TCP :
```

SYNTAX AND CONVENTIONS

; (semicolon)	is used to denote the beginning of a comment. Any text on a given line following a ';' is a comment, and not part of the host table.
NET	keyword introducing a network entry
GATEWAY	keyword introducing a gateway entry
HOST	keyword introducing a host entry
DOMAIN	keyword introducing a domain entry
:(colon)	is used as a field delimiter
::(2 colons)	indicates a null field
,(comma)	is used as a data element delimiter
XXX/YYY	indicates protocol information of the type TRANSPORT/SERVICE.

where TRANSPORT/SERVICE options are specified as

"FOO/BAR" both transport and service known

"FOO" transport known; services not known

"BAR" service is known, transport not known

NOTE: See "Assigned Numbers" for specific options and acronyms for machine types, operating systems, and protocol/services.

Each host table entry is an ASCII text string comprised of 6 fields, where

Field 1 KEYWORD indicating whether this entry pertains to a NET, GATEWAY, HOST, or DOMAIN. NET entries are assigned and cannot have alternate addresses or nicknames. DOMAIN entries do not use fields 4, 5, or 6.

Field 2 Internet Address of Network, Gateway, or Host followed by alternate addresses. Addresses for a Domain are those where a Domain Name Server exists for that domain.

Field 3 Official Name of Network, Gateway, Host, or Domain (with optional nicknames, where permitted).

Field 4 Machine Type

Field 5 Operating System

Field 6 Protocol List

Fields 4, 5 and 6 are optional. For a Domain they are not used.

Fields 3-6, if included, pertain to the first address in Field 2.

'Blanks' (spaces and tabs) are ignored between data elements or fields, but are disallowed within a data element.

Each entry ends with a colon.

The entries in the table are grouped by types in the order Domain, Net, Gateway, and Host. Within each type the ordering is unspecified.

Note that although optional nicknames are allowed for hosts, they are discouraged, except in the case where host names have been changed

and both the new and the old names are maintained for a suitable period of time to effect a smooth transition. Nicknames are not permitted for NET names.

GRAMMATICAL HOST TABLE SPECIFICATION

A. Parsing grammar

```
<entry> ::= <keyword> ":" <addresses> ":" <names> [":" [<cputype>]
   [":" [<opsys>]  [":" [<protocol list>] ]]] ":"
<addresses> ::= <address> *["," <address>]
<address> ::= <octet> "." <octet> "." <octet> "." <octet>
<octet> ::= <0 to 255 decimal>
<names> ::= <netname> | <gatename> | <domainname> *["," 
   <nicknames>]
   | <official hostname> *["," <nicknames>]
<netname>  ::= <name>
<gatename> ::= <hname>
<domainname> ::= <hname>
<official hostname> ::= <hname>
<nickname> ::= <hname>
<protocol list> ::= <protocol spec> *["," <protocol spec>]
<protocol spec> ::= <transport name> "/" <service name>
   | <raw protocol name>
```

B. Lexical grammar

```
<entry-field> ::= <entry-text> [<cr><lf> <blank> <entry-field>]
<entry-text>  ::= <print-char> *<text>
<blank> ::= <space-or-tab> [<blank>]
<keyword> ::= NET | GATEWAY | HOST | DOMAIN
<hname> ::= <name>*["."<name>]
<name>  ::= <let>[*[<let-or-digit-or-hyphen>]<let-or-digit>]
<cputype> ::= PDP-11/70 | DEC-1080 | C/30 | CDC-6400...etc.
<opsys>   ::= ITS | MULTICS | TOPS20 | UNIX...etc.
<transport name> ::= TCP | NCP | UDP | IP...etc.
<service name> ::= TELNET | FTP | SMTP | MTP...etc.
<raw protocol name> ::= <name>
<comment> ::= ";" <text><cr><lf>
<text>    ::= *[<print-char> | <blank>]
<print-char>  ::= <any printing char (not space or tab)>
```

Notes:

1. Zero or more 'blanks' between separators " , : " are allowed. 'Blanks' are spaces and tabs.

2. Continuation lines are lines that begin with at least one blank. They may be used anywhere 'blanks' are legal to split an entry across lines.

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